

What is claimed is:

1. A composition for the production of abrasion-resistant and alkali-resistant layers or shaped bodies with low-energy surface, comprising
  - 5    a) a curable binder system comprising at least one organic polymer or oligomer with one or more functional groups or a precursor thereof,
  - b) at least one fluorinated polymer or oligomer having at least one functional group which is reactive with a functional group of the binder system, and
  - c) inorganic particles.
- 10              2. The composition as claimed in claim 1, characterized in that the functional group of the fluorinated polymer or oligomer is an  $-SO_3H$  group, a  $-PO_3H$  group, an amino group, a carboxyl group and/or a hydroxyl group.
- 15              3. The composition as claimed in claim 1 or 2, characterized in that the fluorinated polymer or oligomer is a fluorinated polyether or a fluoroethylene-alkyl vinyl ether copolymer.
- 20              4. The composition as claimed in one of claims 1 to 3, characterized in that the particles are present in an amount of from 5 to 60% by weight based on components a), b) and c) of the composition.,
- 25              5. The composition as claimed in one of claims 1 to 4, characterized in that the inorganic particles are oxides, nitrides, carbides, carbonitrides, silicides or borides.
- 30              6. The composition as claimed in one of claims 1 to 5, characterized in that the particles are selected from the group of SiC, B<sub>4</sub>C, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub> and TiO<sub>2</sub>, and the particles may be surface-modified, for example with radicals containing epoxy or amine groups.
- 35              7. The composition as claimed in one of claims 1 to 6, characterized in that the binder system comprises an epoxy resin, a polyol, a blocked or unblocked polyisocyanate, a polyester, a polyacrylate, a polyamine, a polyamide, a polyimide and/or a polybenzimidazole or precursors thereof.
8. The composition as claimed in one of claims 1 to 7, characterized in that the binder system comprises a crosslinking agent or a hardener.

9. The composition as claimed in one of claims 1 to 8, characterized in that the crosslinking agent or the hardener comprises blocked or unblocked isocyanate groups, acid anhydride groups, amine groups or hydroxyl groups.

5 10. The composition as claimed in one of claims 1 to 9, characterized in that it additionally comprises d) a solvent and/or at least one additive.

10 11. The composition as claimed in one of claims 1 to 10, characterized in that the binder system comprises a di- or tetracarboxylic acid, an anhydride thereof or another derivative thereof as the carboxylic acid component, and a di- or tetramine as the amine component, at least one component being aromatic.

15 12. A process for producing a substrate with abrasion-resistant and alkali-resistant coating with low-energy surface, characterized in that

a) a composition as claimed in one of claims 1 to 11 is applied to the substrate and,

b) the applied composition is cured.

20 13. A substrate having abrasion-resistant and alkali-resistant coating with low-energy surface composed of a cured composition according to one of claims 1 to 11.

25 14. The substrate having abrasion-resistant and alkali-resistant coating with low-energy surface as claimed in claim 13, characterized in that the concentration of the fluorinated polymer or oligomer in the layer is essentially the same in the vertical direction.

30 15. The substrate having abrasion-resistant and alkali-resistant coating with low-energy surface as claimed in claim 13 or 14, characterized in that the coating is high-temperature-resistant.

35 16. A process for producing an abrasion-resistant and alkali-resistant shaped body with a low-energy surface, characterized in that

a) a composition as claimed in one of claims 1 to 11 is shaped and,

b) the shaped composition is cured.

17. An abrasion-resistant and alkali-resistant shaped body composed of a cured composition as claimed in one of claims 1 to 11.

18. The use of an abrasion-resistant and alkali-resistant coating as claimed in one of claims 13 to 15 or of an abrasion-resistant and alkali-resistant shaped body as claimed in claim 17 for keeping objects or built structures clean.